

**APPARATUS AND METHOD  
FOR  
SCRIBING SEMICONDUCTOR WAFERS USING VISION RECOGNITION**

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**ABSTRACT OF THE DISCLOSURE**

An apparatus and method for scribing a semiconductor wafer coated with a substantially opaque material using vision recognition is disclosed. The apparatus includes a stage configured to hold a wafer, an imaging unit configured to generate an image of the wafer, and a computer configured to identify the coordinates of the scribe lines on the wafer from the image. During operation, the wafer is imaged using the imaging unit. The computer then identifies the coordinates of the scribe lines on the wafer from the image. Thereafter the coordinates are provided to a dicing machine which performs the dicing of the wafer. Accuracy is therefore improved since the dicing machine relies on the coordinates of the scribe lines as opposed to attempting to 10 recognize the scribe lines through the opaque material. According to various 15 embodiments of the invention, the imaging unit may use infrared, X-ray or ultrasound waves to generate the image of the wafer.